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MONTHLY REPORT

1 SEPTEMBER - 30 SEPTEMBER 1957

INSTALLATION AND MAINTENANCE BRANCH

ENGINEERING DIVISION

SUPPLY ACTIVITIES

Tiny Tot

1. The parts necessary to complete the fabrication of forty-eight (48) Transmitter Distributors and thirty-six (36) Model 19 Keyboards [REDACTED] are ready for shipment.

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2. The status of four Tiny Tots for [REDACTED] is as follows:

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a. Two shipped from Account 180. Account 910 has ordered replacement equipment to replenish our stock. A partial delivery has been made and this transaction will be completed pending receipt of two each reperforators.

b. One Class 3 Tiny Tot was shipped to the Wire Maintenance Shop by Test and Inspection and put into Class 1 condition. This Tiny Tot will be picked up [REDACTED].

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c. One Tiny Tot has been returned from National Security Agency. Wire Maintenance Section will check it out before releasing it [REDACTED].

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3. Shipped one kit to Test and Inspection to complete a requisition of two Transmitter Distributors [REDACTED].

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Requisitions and Property-Turn-Ins

1. Transferred to Account 910 one Model 15 Teletypewriter used with the AS-4 located [REDACTED] Awaiting confirming requisition to complete transaction.

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2. Turned into warehouse stock thirty-eight (38) Model 28 Teletypewriter sets. Twenty three of these are in Class 3 condition. These machines are to be degreased at the shop, [REDACTED] by the Wire Maintenance Section before being placed into stock.

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3. Returned to stock two Model 154 Kleinschmidt Teleprinters.

4. Ordered our annual supply of spare parts for the KW2 from the National Security Agency.

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25X1A 5. Prepared routine requisitions for spare parts to maintain sufficient stock levels for [REDACTED] and associated equipment.

6. Eight Teletype requisitions (35 items) were processed for field shipment.

25X1A 7. Ordered for the Wire Maintenance Section sufficient quantities of tools to bring five TE-50 [REDACTED] to Class 1 condition.

#### Cryptographic Parts KL-7

1. Three Depot Maintenance spare parts kits for KL-7 have been shipped by Security to the Wire Maintenance Shop. Two kits were shipped complete, the third was a partial shipment. The quantity of the line items of two kits are being divided in half and repackaged. These kits will then be sent to the field: [REDACTED].25X1A6a  
The third kit is to be placed in stock to supply the local area.

#### Teletype Equipment - OCI

Two Sig Tots were ordered. One is to be installed at "Q" Building, the other has been picked up by National Security Agency and is to be installed at Fort Meade.

#### Other Activities

1. Worked with ICB/SD/OL for two days screening, identifying, and adding to descriptions of items that will appear in the Group 5815 (Teletype and Facsimile Equipment) portion of the Supply Catalog.

2. Screened all field requisitions for the fiscal year 1957 of Teletype spare parts. Twelve requisitions (23 items) still open and will be shipped to the respective areas pending delivery from [REDACTED] 25X1A5a1 Corporation.

3. Brought Account 180 files for the fiscal year 1957 up to date. Thirty requisitions (54 line items) are still open.

#### MECHANICAL MAINTENANCE SECTION

The following installation and maintenance duties were performed by this Section:

##### 1. 60 KW Trailer Mounted Generator

Removed fuel tank, sanded, painted with zinc chromate and olive drab, then replaced on trailer. Connected engine heater which will maintain operating temperatures in engine at all times. Sanded rust spots on trailer and generator and covered with zinc chromate. Charged battery.

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2. Administration Building

Re-adjusted governor to maintain 62 cycles, no-load.  
Added fuel to tank.

3. "L" Building

Changed oil, oil filters, cleaned air cleaners and primary fuel filters of "A" engine. Delivered 55 gal drum of lube oil previously ordered. Started complete repair of ASCO Automatic Switch.

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4. [REDACTED]

Familiarized operators with proper procedures for the engines.

5. Mechanical Equipment

Minor welding on body and covering rust spots with zinc chromate on Dodge Power Wagon.

ELECTRONIC MAINTENANCE SECTION

The following installation and maintenance duties were performed by this Section:

Microwave

1. Regular maintenance visits were made to all microwave installations. Minor defects noted were repaired and all equipment tested.

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2. The T.O.T. Microwave circuit between [REDACTED] and the Signal Center Room 1210 "I" Building, was reported inoperative. The microwave portion of this circuit is operating satisfactorily, but the A.F.C. Receiver bias adjustment at [REDACTED] was mal-adjusted for approximately 25% marking bias to give a good teletype signal at the Signal Center. The trouble appears to be in the associated equipment or telephone line. Steps are being taken to correct this trouble.

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3. The surplus microwave remote terminal equipment at the [REDACTED] has been inventoried and steps are now being taken to have new stock numbers assigned so that it can be PTT'D as Class three equipment.

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4. The surplus [REDACTED] microwave equipment is being held at the [REDACTED] class three condition, until a program can be initiated to recondition this equipment.

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5. Frequency response tests are being carried out on [REDACTED] Microwave A.F.C. transmitting and receiving Isokay Filters to determine if any of them have shifted frequency. All good filters will be installed and complete tests will be made on each unit before this equipment is returned to stock for re-issue.

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6. Personnel from Real Estate and Construction Division, OL, accompanied representatives of the [REDACTED] to [REDACTED] to determine the cost of ventilating this building properly. A cost estimate should be forth-coming during the month of October.

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#### B-3 Voice Privacy Units

1. The remaining four units and all spare parts for 16 units have been delivered to the [REDACTED] for processing. This project has been completed.

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#### Washington Disaster Plan

1. Regular maintenance visits were made to [REDACTED] the Attic of East Building, and to all Mobile Cars of the Security Office V.H.F. Net, Minor defects noted were repaired.

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25X1A

2. The frequency of the [REDACTED] V.H.F. equipment installed in the [REDACTED] courier car has been changed from the Motor Pool V.H.F. Net to the Security Office V.H.F. Net.

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3. Listed below are new call signs which have been assigned for operation with the Security Office V.H.F. Net.

<u>Location</u>	<u>Normal Voice</u>	<u>Tactical Voice</u>
Control Point # 5 Engineering Test, Alcott Hall	Amperage	C4P
Control Point # 6 Engineering Test, East Building Attic	Resistor	BRB
Control Point # 7 Engineering Test, [REDACTED]	Power	C8P
EMS Vehicle EO-4387	Battery	C3P
WMS Vehicle FN-1052	Electric	C6P
EMS Vehicle EO-4333	Watt	C7P

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## 6ST Project

1. No further information at this time.

## Special Projects

1. One Technical Material P.M.O. has been repaired for the Equipment Engineering Section.

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2. One [REDACTED] V.H.F. Transmitter-Receiver has been repaired for American Activities Branch.

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3. One [REDACTED] Receiver has been repaired.

4. The inter-communications amplifier located at the Signal Center has been repaired.

## KY-1 Voice Privacy Unit

1. Regular maintenance visits were made to all KY-1 Units. Eleven trouble calls were reported and repaired.

2. The KY-1 switchboard automatic register readings are as follows:

<u>Office</u>	<u>Date</u>	<u>Total Calls</u>
AD/SI	26 August - 10 September 1957	9
C.O.P.S.	26 August - 10 September 1957	31
AD/CI	10 September - 24 September 1957	68
A/DD/P/PP	10 September - 24 September 1957	20

A total of 4243 calls were counted on the switchboard for the period 26 August to 24 September 1957.

3. The telephone line which connected [REDACTED] KY-1 unit to our KY-1 switchboard has been disconnected.

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4. The KY-1 modification program to modernize all Agency KY-1 units will be done by N.S.A. This Agency will ship ten KY-1 units to N.S.A. during the month of October. In November, N.S.A. will loan this Agency ten modified units, and the remaining Agency KY-1 units will be shipped to N.S.A. for modification. This schedule will allow us to have ten voice privacy units in operation at all times.

5. The KY-1 unit located at the Signal Center has been removed from Room 1206 "L" Building to Room 1203 "L" Building.

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WIRE MAINTENANCE SECTION

The following installation and maintenance duties were performed by this Section:

1. For the projected move of NSA from Arlington Hall to Fort Meade; the C&P Telephone Co. has installed 43A Carrier Units at OCI, 1503 "L" Building and at 1717 "H" Street. With this Carrier system all of the circuits go directly from each area to NSA and do not go through the "L" Building Signal Center Switchboard, as did the OCI circuits previously.

Also for this move two each complete "on line" 131B2 tables and Model 19's had been requisitioned and are now wired for "on line" operation. One of the complete units has been sent to Fort Meade and the other will be installed at the OCI Commcenter. These units are to be used between the [REDACTED] An "on line" receive only circuit will also be installed at OCI as soon as the necessary equipment is received. The OCI circuits will be cut over approximately October 12th.

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2. Two Tiny Tot units were wired in our shop and were picked up by [REDACTED] personnel for their school. One more Tiny Tot that was returned from NSA is now being checked out and this will also go to [REDACTED]

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3. We are still spending all available time on the splitting of the AFSAM-7 kits. This is a slow business and at this time approximately one and a half kits have been completed.

4. Four of the men from this Section have been attending school [REDACTED] The Basic Teletype course started September 3rd, and will end on September 27th. The Sig Tot and Tiny Tot Course will commence on September 30th and ends October 25th.

25X1A

5. The two Kleinschmidt teletype equipments Model 154, have been PTI'D to the Warehouse. No further tests or evaluations were made on this equipment.

6. Sometime in the very near future, the Wire Maintenance Section will be moving to Wing "E", Curie Hall. Floor plans have been submitted showing the projected layout of our furniture, equipment, the needed partitions, and AC outlets. In preparation for this move we have been attempting to dispose of all our P.T.I. equipment and any other equipment we have that has to be installed.

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25X1C 7. A considerable amount of time was expended in the adapting of two of our Tiny Tot units to work in a manner comparable with the [REDACTED] This system utilized the "tape loop" principle and was attempted to see if three full duplex circuits would be possible in the same amount of space at the [REDACTED] that now has three half duplex circuits. Operation and Training Division personnel witnessed the trail run and no comments were made. This equipment has now been converted back to straight Tiny Tot, and the two units were sent [REDACTED]

25X1C

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8. One OTP machine maze from the Signal Center was brought into our shop to be modified. The bypass and reject relays which were "Y" type relays, have been replaced with IBM relays. This unit is used as a spare for two OTP machines.

25X1A2d1 9. [REDACTED] has a new full duplex circuit coming into operation around the first of October. The equipment needed for this circuit is two "on line" Sig Tots. No additional equipment was ordered as one of these units is already wire up for "on line" operation, and at the present time is used on their FOB<sup>4</sup> circuit. At the time this full duplex circuit is activated the FOB<sup>4</sup> circuit will close down, and that on line unit will be available. The other "on line" unit needed was accomplished by converting one of their "OFF LINE" units to "on line".

25X1A6a 10. We received a Tiny Tot unit from NSA that they had had on loan, and this unit will be checked out, standardized, and sent to [REDACTED] One Model 19 keyboard was modified for Tiny Tot operation for [REDACTED] and has been sent back to them.

#### Special Projects

1. The fabrication of the 48 line Battery Tap Panel for [REDACTED] has been completed, and shipped. 25X1A6a

2. The fabrication of a 315 line Battery Tap Panel for [REDACTED] got under way this month and at this time the project is half completed. 25X1A6a

25X1A 3. After the completion of the Battery Tap Panel, work will start on the fabrication of a 300 line Teletype Switchboard for the alternate Signal Center [REDACTED]

#### Signal Center

1. All servicing for the month of September is up to date. As part of our servicing this month all of the 255A relays in the 131B2 tables have been replaced, and all our spare 255A relays have been adjusted.

2. On 22 September 1957 a burned out A.C. Power Panel was replaced in the Signal Center Wing. This caused a one and a half hours shutdown

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3. The Signal Center Maintenance Supervisor has submitted plans and a request for a new work bench and test bench which would allow for more storage area underneath. Also a request was made to have an exhaust fan installed for the removal of dust and fumes from the cleaning solvent. This request was just made and is under consideration.

4. The total troubles reported and cleared for the month was one hundred and eleven (111). They are broken down as follows:

- a. Day Shift                      64 troubles
- b. Night Shift                    41 troubles
- c. Outside Area (Nights)    6 troubles

#### Outside Area

1. Preventive maintenance was performed on all area equipment as per maintenance schedule.

2. A considerable amount of time was spent on the NSA Bravo Circuit at OCI. An intermittent trouble kept coming on the machine and it was eventually found that a metallic spacer in the rectifier had come loose and was shorting intermittently in the primary of the transformer.

25X1C

3. The [REDACTED] Receive circuit had been giving trouble earlier this month, and was found to be a defective "RV" relay. This relay was replaced and the trouble cleared.

4. The total troubles for the local outside area was fourteen (14). Broken down they are as follows:

- a. Q Building (OCI)              8 troubles
- b. [REDACTED]                    5 troubles
- c. [REDACTED]                    1 trouble

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#### 1717 "H" Street

1. All teletype equipment was serviced as per maintenance schedule.

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2. An "off line" Sig Tot was converted to "on line" operation for a requirement by [REDACTED]

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3. Circuit number 6GT49CM, the new NSA Carrier line, was installed on the [REDACTED] Switchboard on loop 21.

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OVERTIME

The Installation and Maintenance Branch performed forty-eight hours of Overtime this monthly report period. This broken down among the three sections is as follows:

The Mechanical Maintenance Section required three hours overtime this month. This Overtime was used for emergencies necessary due to the 24 hour operation of equipment.

The Electronic Maintenance Section required nineteen hours Overtime this period. This Overtime was used for emergency trouble calls for the Security Office VHF Net, KY-1 installations and microwave installations of the Washington Disaster Plan.

The Wire Maintenance Section required twenty three hours Overtime this period. This Overtime was used for emergency trouble calls for the Signal Center, [REDACTED] and the Washington Area.

25X1A

[REDACTED]

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Chief, Installation and Maintenance Branch

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